

CLAIMS

What is claimed is:

1. A weighing scale apparatus comprising:
 - 5 (a) a base for contacting a support surface;
 - (b) a platform for contact with a load, the platform disposed above and in operational contact with the base, the platform having a predetermined number of load cell mounts, each one of the load cell mounts providing a deflection gap between a load cell and the platform;
 - 10 (c) a number of load cells equal to the number of load cell mounts, each one of the load cells being attached to one of the load cell mounts of the platform and being positioned between the base and the platform; and
 - 15 (d) a number of engagement members equal to the number of load cells, each one of the engagement members being in operational contact with the base and one of the load cells.
2. The weighing scale apparatus of claim 1 wherein, the base comprises
20 opposed linear angle foot members at opposite ends of the platform.

3. The weighing scale apparatus of claim 1 wherein, each one of the load cell mounts has at least one support position upon which one of the load cells is attached.
- 5 4. The weighing scale apparatus of claim 1, further including an electrical control/display and a power supply, the electrical control/display in communication and remote from the weighing scale, the power supply being located in the electrical control/display.
- 10 5. The weighing scale apparatus of claim 1, further including a summing box for summing output from the predetermined number of load cells.
6. The weighing scale apparatus of claim 5 wherein, the summing box is in communication with an electrical control/display.
- 15 7. The weighing scale apparatus of claim 5 wherein, the summing box is mounted to the platform of the weighing scale apparatus.
8. The weighing scale apparatus of claim 1 wherein, the predetermined number of load cells mounts, load cells and engagement members is at least four.
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9. The weighing scale apparatus of claim 1 wherein, the predetermined number of load cell mounts, load cells and engagement members is four with each load cell secured adjacent a corner of the platform.
- 5 10. The weighing scale apparatus of claim 1 wherein, the engaging members include a foot nut secured to a surface of the base, the foot nut having a threaded cavity therein, and a threaded fastener traversing the load cell and secured within the nut threaded cavity.
- 10 11. The weighing scale apparatus of claim 10 wherein, a foot member secures the foot nut to a surface of the base.
12. The weighing scale apparatus of claim 1 wherein, the load cells include shear beam load cells having a deflection gap at one end.
- 15 13. The weighing scale assembly of claim 1, further including a load cell case secured about each load cell.
14. The weighing scale apparatus of claim 1, further including a pair of
20 opposed access ramps, each ramp secured to the base at opposed ends of the weighing scale apparatus.

15. The weighing scale apparatus of claim 1 wherein, the platform comprises a planar, bundle of rectangular tube members secured between a top contact surface plate and a bottom surface plate.

5 16. A weighing scale assembly comprising:

(a) at least two weighing scale units, each unit including;

(i) a base for contacting a support surface;

(ii) a platform for contact with a load, the platform disposed above and in operational contact with the base, the platform having a
10 predetermined number of load cell mounts, each one of the load cell mounts providing a deflection gap between a load cell and the platform;

(iii) a number of load cells equal to the number of load cell mounts, each one of the load cells being attached to one of the load cell
15 mounts of the platform and being positioned between the base and the platform; and

(iv) a number of engagement members equal to the number of load cells, each one of the engagement members being in
operational contact with the base and one of the load cells; and

20 (b) an electrical control/display and a power supply operatively connected to the at least two weighing scale units for displaying the total weight supported by the scale assembly.

17. The weighing scale assembly of claim 16 wherein, the base comprises opposed linear angle foot members at opposite ends of the platform.
18. The weighing scale assembly of claim 16 wherein, each one of the load
5 cell mounts has at least one support position upon which one of the load cells is attached.
19. The weighing scale assembly of claim 16, further including a summing
10 box for each scale unit, the boxes summing output from the predetermined number of load cells of each scale unit.
20. The weighing scale assembly of claim 19 wherein, the summing boxes are in communication with the electrical control/display.
- 15 21. The weighing scale assembly of claim 19 wherein, the summing box is mounted to the platform of the weighing scale unit.
22. The weighing scale assembly of claim 16 wherein, the predetermined
20 number of load cell mounts, load cells and engagement members is four with each load cell secured adjacent a corner of the platform.
23. The weighing scale assembly of claim 16 wherein, the at least two weighing scale units are operatively connected in series to the electrical

control/display and the power supply, the power supply being located in the electrical control/display, and the electrical control/display being remote from the weighing scale units.

5 24. The weighing scale assembly of claim 16 wherein, the engaging members include a foot nut secured to a surface of the base, the foot nut having a threaded cavity therein, and a threaded fastener traversing the load cell and secured within the nut threaded cavity.

10 25. The weighing scale assembly of claim 24 wherein, a foot member secures the foot nut to a surface of the base.

26. The weighing scale assembly of claim 16 wherein, the load cells include shear beam load cells having a deflection gap at one end.

15 27. The weighing scale assembly of claim 16, further including a load cell case secured about each load cell.

28. The weighing scale assembly of claim 16, further including at least two
20 pair of opposed access ramps, each ramp secured to the base at opposed ends of each of the at least two weighing scale units.

29. The weighing scale assembly of claim 16 wherein, the platform comprises a planar, bundle of rectangular tube members secured between a top contact surface plate and a bottom surface plate.

5 30. A weighing scale assembly comprising:

(a) two pair of weighing scale units, each unit including;

(i) a base for contacting a support surface;

(ii) a platform for contact with a load, the platform disposed above and in operational contact with the base, the platform having a
10 predetermined number of load cell mounts, each one of the load cell mounts providing a deflection gap between a load cell and the platform;

(iii) a number of load cells equal to the number of load cell mounts, each one of the load cells being attached to one of the load cell
15 mounts of the platform and being positioned between the base and the platform; and

(iv) a number of engagement members equal to the number of load cells, each one of the engagement members being in
operational contact with the base and one of the load cells; and

20 (b) an electrical control/display and a power supply operatively connected to the two pairs of weighing scale units for displaying the total weight supported by the scale assembly.

31. The weighing scale of claim 30 wherein, the predetermined number of load cells mounts, load cells and engagement members is at least four.

32. The weighing scale assembly of claim 30 wherein, the predetermined
5 number of load cell mounts, load cells and engagement members is four with each load cell secured adjacent a corner of the base.

33. The weighing scale assembly of claim 30 wherein, the base comprises a connector portion positioned between a pair of platform members and connected
10 thereto, and opposed linear angle foot members secured at opposite ends of the pair of platform members.

34. The weighing scale assembly of claim 33, further including a pair of opposed access ramps, each ramp secured to the base at opposed ends of the pair
15 of weighing scale units.

35. The weighing scale assembly of claim 30 wherein, the engaging members include a foot nut secured to a surface of the base, the foot nut having a threaded cavity therein, and a threaded fastener traversing the load cell and secured within
20 the nut threaded cavity.

36. The weighing scale assembly of claim 35 wherein, a foot member secures the foot nut to a surface of the base.

37. The weighing scale assembly of claim 30 wherein, the load cells include shear beam load cells having a deflection gap at one end.

5 38. The weighing scale assembly of claim 30, further including a load cell case secured about each load cell.

39. A method of weighing an axle of a vehicle comprising the steps of:

(A) providing a weighing scale assembly comprising;

10 (i) a pair of weighing scale units, each unit including;

(a) a base for contacting a support surface;

(b) a platform for contact with a load, the platform disposed above and in operational contact with the base, the platform having a predetermined number of load cell mounts, each one of the load cell mounts providing a deflection gap between a load cell and the platform;

15 (c) a number of load cells equal to the number of load cell mounts, each one of the load cells being attached to one of the load cell mounts of the platform and being positioned between the base and the platform; and

20 (d) a number of engagement members equal to the number of load cells, each one of the engagement members being in operational contact with the base and one of the load cells; and

(ii) an electrical control/display and a power supply operatively connected to the pair of weighing scale units for displaying the total weight supported by the scale assembly;

5 (B) positioning each scale unit of the weighing scale assembly on a support surface;

(C) moving an axled vehicle onto the scale assembly such that each scale unit supports one end of an axle thereof; and

(D) observing the output of the electrical display.